From:

Barsamian, Peter

Sent:

Thursday, February 13, 2003 3:28 PM

To:

Gundal, Frank

Subject:

FW: Green Power Option

----Original Message----

From:

Tse, Evie

Sent:

Thursday, February 13, 2003 3:13 PM

To:

Barsamian, Peter

Cc:

Frattasio, Marc; Kuramoto, Linda

Subject:

Green Power Option

#### Peter,

Apparently in NE area, four states have opened their electricity markets to competition. Rhode Island became the first state to allow customers to choose a competitive supplier when it opened its electricity market on January 1, 1998. Massachusetts opened its market three months later. On March 1, 2000, the electric market in Maine opened to retail competition. Then, followed by Connecticut in July 2000. New Hampshire, which was the first state to enact a restructuring law in 1996, has had retail competition delayed pending resolution of a lawsuit over the stranded cost recovery provisions contained in the implementation rules. Vermont is the only state in New England that has yet to pass a restructuring law. To date, over 20 states have environmental disclosure policies <disclosetxt.shtml> in place, requiring electricity suppliers to provide information on fuel sources and, in some cases, emissions associated with electricity generation. More than 300 utilities, including investor-owned, municipal utilities, and cooperatives, have either implemented or announced plans to offer a green pricing option.

#### A few websites provide very good information:

- http://www.eere.energy.gov/ (main page)
- http://www.eere.energy.gov/greenpower/certificates.shtml#gcerts (A list of "Green Certificate Marketers" and products they offer)
- http://www.eere.energy.gov/greenpower/ (The Green Power Network (GPN) provides news and information on green power markets and related activities)
- http://www.eere.energy.gov/greenpower/library.shtml (A reference library of relevant papers, articles and reports)
- http://www.eere.energy.gov/greenpower/marketing.shtml (Green Power marketers and customers list and detailed information)
- http://search.nrel.gov/query.html?qp=&qs=&qc=eren&ws=0&qm=0&st=1&nh=10&lk=1&rf =0&oq=&col=eren&qt=green+power (More articles)
- http://www.thegreenpowergroup.org/
- http://www.eere.energy.gov/greenpower/consumers.shtm
- http://www.montanagreenpower.org/
- http://www.tva.gov/greenpowerswitch/
- http://www.epa.gov/greenpower/
- http://www.cleanenergy.org/greenpower/

Evie Tse (x3434)

From:

Subject:

Barsamian, Peter

Sent:

Tuesday, February 11, 2003 9:56 AM

To:

Gundal, Frank FW: Green Power

----Original Message----

From:

Angley, Ellen

Sent:

Tuesday, February 11, 2003 9:43 AM

To:

Horan, Douglas

Cc:

Conner, Penelope; Lubbock, Geoffrey; Martin, Robert; Milton, John; Barsamian, Peter

Subject:

FW: Green Power

#### Doug,

Penni Conner, Bob Werlin, Bob Martin, John Milton and I reviewed the Mass Electric Green Power Customer Program. Although some aspects of their proposal would be consistent with a program we would design, there were some important differences from a customer care perspective. Additionally, we would likely have billing difficulty with a program that would allow variable cent per KWh. However, we do think we should develop a program for our customers. Penni has a lot of ideas on program design, marketing and branding. Her views are based on her experience designing a similar program in Tampa as well as researching programs what has worked elsewhere. Therefore, we had decided we would prefer to contact Fran Cummings, at the MTC, to design a program that better fits with our overall customer strategy rather than join with this program.

Subsequent to our internal meeting, Bob Martin, Bob Werlin and I participated in a review of Mass Electric's program given by Tom Robinson. He said that MTC was no longer going to have their name on this program but would be participating in some way. NGrid did not necessarily see this as a statewide program but said they will implement as they have a similar program in NY and will be offering one in RI. He also stated that DOER and CLF were on board with their approach and would like to see a statewide approach. However, it wasn't at all clear what kind of agreements they have and I sense he may have been stretching it. He anticipated turning around the next draft of their program in a week or two. I let them know that although we would likely have a program down the road that Penni had different views on program design. At that point they said they would prefer to wait to work with us and asked for us to meet with them in the next week or two to compare ideas. Penni is going to take the lead with Bob Werlin's support.

In my view, participation in this meeting confirmed our original thoughts that we would be much better positioned by developing our own program. Particularly because NGrid wants to structure this consistent with their goal of getting out of energy supply and sees this as a potential alternative to the distribution company RPS requirement. Given our different strategic directions there may not be a desirable one size fits all approach. With that said, I think we need to meet with the other companies at least once to ascertain the viability/desirability of a statewide approach.

Penni's area is going to take the lead as this is primarily a customer program. My group will support the effort as there will likely be energy supply issues. Support will also likely be necessary from the rate area. Penni will be contacting both Tom Robinson and Fran Cummings to set up an initial meetings as well as establishing an internal team to work through the details of an NSTAR program. Bob Werlin will informally let the DTE know what we're doing.

Please let us know if you have any concerns or thoughts on our approach.

# Agenda

- Survey
- Preliminary Product Description
- Billing
- Marketing
- Next Steps

# Meeting Agenda 9/23/03

- Update on NSTAR Green Filing Bob Werlin
- Update on MCEC agreement Bob Werlin
- Discuss draft of press release and timing Mike Durand
- Discuss sub-team roles, responsibilities and establish leads Frank Gundal
- Discuss timeline and milestone dates Jim Razzaboni
- Set up fixed bi-weekly meetings through to product roll-out Frank Gundal

# Meeting Agenda 10/7/03

- Update on MCEC agreement James Daley
- Billing Process John Milton/Steve Chiara
- Results of RFP Gary Cunningham
- Timeline update- Jim Razzaboni
- Website Paul Connelly
- DS1 Customers
- How to identify/remove delinquent customers
- Discuss possible problems and resolutions Jim Razzaboni
- Wrap-up, set next meeting date and review assignments Frank Gundal

# Meeting Agenda 10/21/03

- Review Meeting Minutes
- Update on MCEC agreement James Daley
- Billing/NIS Project Update John Milton/Steve Chiara/Jessica Brahaney
- Marketing, Logo, Bill stuffer etc update Paul Connolly
- Wrap-up, set next meeting date Frank Gundal

# Agenda 11/25/03

- Review Meeting Minutes, 5 minutes
- NIS update Jessica Brahaney, 5 minutes
- Call Center Training Karen Lea, 10 minutes
- Sign up procedure Jerry Carey, 10 minutes
- Standard Offer issue Gary Cunningham, 5 minutes
- DTE notice
- Wrap-up, set next meeting date Frank Gundal

## **Green Power**

#### **AGENDA**

- Discussion of Focus Group Results
- Product Definition
- Product Name
- Time Line Identify dates and responsibilities

## PROPOSED PRODUCT

- 25% Green Option
- NSTAR chooses cost effective mix
- Work with MTC to ensure Federal tax incentive
- Develop product similar to a mutual fund
  - o NSTAR is a Portfolio Manager
  - o Mission Statement
  - Charges Cost only is passed on to customers. NSTAR is offering this
    product as a Not-for-profit service
  - Prospectus List green sources, descriptions and goals in percentage terms, use maximum mixture cost/kwh. Maximize wind/solar use other sources to maintain price level.
  - Quarterly Reports The label, showing actual portfolio mix. Can we do this via email? The web?

# **PRODUCT NAMES**

- Green Power
- Earth's Choice
- NSTAR Green
- NGreen
- Environmentally Friendly

### **Green Power**

### **AGENDA**

- Discussion of Focus Group Results
- Product Definition
- Product Name
- Time Line Identify dates and responsibilities

### PROPOSED PRODUCT

- 25% Green Option
- NSTAR chooses cost effective mix
- Work with MTC to ensure Federal tax incentive
- Develop product similar to a mutual fund
  - o NSTAR is a Portfolio Manager
  - Mission Statement
  - Charges Cost only is passed on to customers. NSTAR is offering this product as a Not-for-profit service
  - Prospectus List green sources, descriptions and goals in percentage terms, use maximum mixture cost/kwh. Maximize wind/solar use other sources to maintain price level.
  - Quarterly Reports The label, showing actual portfolio mix. Can we do this via email? The web?

## **PRODUCT NAMES**

- Green Power
- Earth's Choice
- Alternate Energy Options
- Energy Choice Plan/Program
- Earth's Options
- NSTAR Green
- NGreen
- EnviroFriendly Power
- Fresh Air
- Power Alternative

# **NSTAR Green Meeting Minutes**

**Project:** 

**NSTAR** Green

Date of Meeting:

October 7th, 2003

Participants:

Frank Gundal, Jim Razzaboni, Peter Barsamian, Mike Durand, Steve Chiara, George Thompson, John Milton, Paul Connolly, Mark Reed, Jack Habib, Bob Werlin

Distribution:

Participants, Penni Conner, Ellen Angley, James Daley, Henry LaMontagne, Dena Lehman, Richard Lyford, Mary

Lou Segreve, Jessica Brahaney, Tony Simas

**Date of This Report:** 

October 9<sup>th</sup>, 2003

**Next Meeting:** 

October 21<sup>st</sup>, 3003

Compiled by:

Frank Gundal

1. Energy Supply is negotiating the MCEC contract with MTC. Marked up contract is currently in the hands of the MTC to review

Action: MTC/James Daley

2. After reviewing several billing possibilities it was agreed that adding new rates would be the best solution. IT has estimated ~700 hours of work to implement. Customer Care will pick up this cost. Steve Chiara to write up specification and schedule kick-off meeting with Jessica Brahaney.

Action: Steve Chiara

3. The RFP yielded 2 responses, one of which included solar/wind. There is not enough solar/wind to meet the 5% minimum. We will remove the strict requirement from the filing, press release and collaterals and instead re-word to maximize solar/wind.

Action: KWP, Mike Durand

4. Webpage to be added to NSTAR website including an email to a general email box in time for the anticipated press release on 10/14

Action: Paul Connelly, Jim Razzaboni

5. Initially the DS1 rate looked to be an issue, however with the anticipated use of new rates for billing, this should not be an issue. Also, KWP did not recommend precluding this rate.

Action: None

6. Need to develop a process to identify/remove delinquent customers

Action Frank Gundal/Tony Simas

7. We are still awaiting the letter from the AG prior to the filing. Mark Reed will attempt to get this prior to 10/14

Action: Mark Reed

8. In order to meet our rollout schedule, it is recommended that we file on 10/14. This to be coordinated by Frank Gundal around Mark Reed, KWP and Mike Durand.

Action: Frank Gundal, Jack Habib, Mark Reed, Mike Durand

The meeting notes are intended to be an accurate refection of topics discussed. Please notify Frank Gundal if any exceptions are taken to these meeting notes.

# **NSTAR Green Meeting Minutes**

Project:

**NSTAR** Green

Date of Meeting:

October 21<sup>st</sup>, 2003

Participants:

Frank Gundal, Jim Razzaboni, Ellen Angley, James Daley, Steve Chiara, John Milton, Paul Connolly, Dena Lehman

Distribution:

Participants, Peter Barsamian, Penni Conner, George Thompson, Mark Reed, Mike Durand, James Daley, Henry LaMontagne, Richard Lyford, Mary Lou Segreve, Jessica Brahaney, Myra Little-Porter, Tina Barter, Jack Habib, Bob

Werlin, Harry Ruscetta, Gerry Carey

**Date of This Report:** 

October 21<sup>st</sup>, 2003

**Next Meeting:** 

November 4<sup>th</sup>, 2003 – SW3B

Compiled by:

Frank Gundal

1. Energy Supply is negotiating the MCEC contract with MTC. Marked up contract is currently in the hands of the MTC to review. Complete date moved to 12/1 in order to leave time for updating marketing materials.

Action: MTC/James Daley

2. Billing Sub-Project meeting scheduled for 10/23 to discuss project scope, timeline, Aging customer report, customer usage report (tax credit), cancel re-bill issue and expected signup/drop off process.

Action: Frank Gundal, Jim Razzaboni, Steve Chiara, John Milton, Myra Little-Porter, Harry Ruscetta, Gerry Carey

3. The RFP yielded 2 responses, one of which included solar/wind. There is not enough solar/wind to meet the 5% minimum. The filing, press release and collaterals have been changed to "up to 5% solar/wind".

Action: None

4. Webpage has been added to NSTAR website including an email to a general email box.

Action: None

5. Collections are not notified until after 90 days delinquent. Customers who are delinquent by 60 days or more will be identified and removed via the existing Aging report. Process to be established.

Action: Frank Gundal/Jim Razzaboni/John Milton

6. AG did not submit a letter of endorsement however agreed to support NSTAR Green if contacted.

Action: None

7. NSTAR Green was filed on 10/16

Action: None

8. Develop NSTAR Green logo and copy for In-Focus bill insert

Action: Paul Connolly

The meeting notes are intended to be an accurate refection of topics discussed. Please notify Frank Gundal if any exceptions are taken to these meeting notes.

# **NSTAR Green Meeting Minutes**

**Project:** 

**NSTAR Green** 

Date of Meeting:

November 4<sup>th</sup>, 2003

**Participants:** 

Frank Gundal, Jim Razzaboni, Steve Chiara, Paul

Connolly, Stu Weiner, Gary Cunningham

Distribution:

Participants, Peter Barsamian, Ellen Angley, James Daley,

Penni Conner, George Thompson, Mark Reed, Mike

Durand, James Daley, Henry LaMontagne, Richard Lyford, Mary Lou Segreve, Jessica Brahaney, Myra Little-Porter, Tina Barter, Jack Habib, Bob Werlin, Harry Ruscetta,

Gerry Carey, Dena Lehman, John Milton

**Date of This Report:** 

November 14<sup>th</sup>, 2003

**Next Meeting:** 

November 25<sup>th</sup>, 2003 – SW3F

Compiled by:

Frank Gundal

1. Energy Supply is negotiating the MCEC contract with MTC. Marked up contract is currently in the hands of the MTC to review. Complete date moved to 12/1 in order to leave time for updating marketing materials.

Action: MTC/James Daley

2. Billing sub-project is underway and information will be communicated separately through that project. Reports can be done through SAS and will not be included in this sub-project (see item 3)

Action: None

3. A report for delinquent NSTAR Green customers and individual usage reports (if MCEC agreement is signed) will be needed. These are not critical to rollout and will be addressed as needed in 2004

Action: None

# NSTAR Green Project Progress Meeting

Page 2

4. Corporate Communications has completed a "Look & Feel" to be used for NSTAR Green

Action: None

5. Corporate Communications to begin developing first bill insert.

Action: Paul Connolly

6. There is an issue with Standard Offer customers and Mirant. Expected resolution is to add an additional Load Asset number.

Action: Gary Cunningham

7. The training for the Call Center and Tech Center Rep's is expected to be minimal. They have been supplied a script and the process is similar for changing other rates. Harry is working with corporate training to determine any additional requirements.

Action: Harry Ruscetta/Gerry Carey

8. Initial Roll out will be to NSTAR employees. We will need to coordinate with HR/Corporate Communications for possible open enrollment at the various NSTAR facilities

Action Frank Gundal/Paul Connolly

9. It is expected that Community Relations will assist in creating customer awareness. Contact Don Walsh to discuss.

Action: Jim Razzaboni

The meeting notes are intended to be an accurate refection of topics discussed. Please notify Frank Gundal if any exceptions are taken to these meeting notes.

# **NSTAR Green Meeting Minutes**

**Project:** 

**NSTAR** Green

Date of Meeting:

November 25<sup>th</sup>, 2003

Participants:

Frank Gundal, Steve Chiara, Stu Weiner, Gary

Cunningham, John Milton, Barbara Moreira, Karen Lea, Ellen Angley, Jack Habib, Penni Conner, Jerry Carey

Distribution:

Participants, Peter Barsamian, James Daley, George

Thompson, Mark Reed, Mike Durand, James Daley, Mary Lou Segreve, Jessica Brahaney, Jack Habib, Bob Werlin, Harry Ruscetta, Dena Lehman, Paul Connolly, Charlie

Olsson

**Date of This Report:** 

November 25<sup>th</sup>, 2003

**Next Meeting:** 

December 3<sup>rd</sup>, 2003 – NW3C

Compiled by:

Frank Gundal

1. Energy Supply is negotiating the MCEC contract with MTC. Marked up contract is currently in the hands of the MTC to review. Complete date moved to 12/1 in order to leave time for updating marketing materials. No major obstacles seen for agreement.

Action: MTC/James Daley

2. A report for delinquent NSTAR Green customers and individual usage reports (if MCEC agreement is signed) will be needed. These are not critical to rollout and will be addressed as needed in 2004. Confirm that all reports necessary for Energy Supply and other groups will not be impacted.

Action: Frank Gundal

3. Corporate Communications has completed the Infocus bill insert. Ellen to review with AG to ensure language compliance.

Action: Ellen Angley

4. There is an issue with Standard Offer customers and Mirant. Energy Supply has come up with an accounting work-around, which will not affect the Mirant contract.

Action: None

5. The School of Process and Technology has come up with a training aid, which will be distributed in January during normal meetings by line management. To be reviewed by Jack Habib and team prior to 1/1/04.

Action: Harry Ruscetta/Gerry Carey

6. Initial Roll out will be to NSTAR employees. This will be done through line management to both educate employees on NSTAR Green and to allow employees to sign up. Frank Gundal to facilitate a communication plan.

Action Frank Gundal

7. Community Relations will assist by presenting to groups and associations. Account Management will be responsible for educating municipalities.

Action: None

- 8. NSTAR will list Green Energy Suppliers on our NSTAR Green website
  - 1. Identify list of suppliers registered in MA.
  - 2. Indicate which are registered to do business with NSTAR.
  - 3. Request from DOER which of these can supply Green Energy (not REC's)

Action: John Milton

- 9. Based on item 8, attempt to elicit either support or non intervention from -
  - 1. Constellation Action: Ellen Angley
  - 2. CSG Action: Frank Gundal/George Thompson
  - 3. Select, Green Mountain and the four Green Up suppliers Action: John Milton
  - 4. Cape Light Compaq Action: Penni Conner
  - 5. DOER, CLF Action: Mark Reed
- 10. In order to work with the non-profit agency Smartpower, NSTAR Green must be Green-E certified. It may qualify by the 150 kwh block qualification. The average usage for non-TOU customers is ~900 kwH. Residential alone is 500 kwh. We will attempt to gain certification under the former otherwise we will increase Green percentage from 25% to 30%. Evaluate with Green-E

Action: Frank Gundal

11. There may be some implication by using an average load greater than 500 kwh. Jack Habib to review.

Action: Jack Habib

Page 3

12. All actions relating to DTE hearing to be completed prior to 12/3

Action: Frank Gundal, George Thompson, Ellen Angley, Penni Conner, John Milton, Mark Reed

The meeting notes are intended to be an accurate refection of topics discussed. Please notify Frank Gundal if any exceptions are taken to these meeting notes.

# **NSTAR Green Meeting Minutes**

**Project:** 

**NSTAR** Green

Date of Meeting:

December 3<sup>rd</sup>, 2003

Participants:

Frank Gundal, John Milton, Charlie Olsson, Jack Habib

Distribution:

Participants, Steve Chiara, Stu Weiner, Gary Cunningham, Peter Barsamian, James Daley, George Thompson, Mark Reed, Mike Durand, James Daley, Mary Lou Segreve, Jessica Brahaney, Jack Habib, Bob Werlin, Harry Ruscetta, Dena Lehman, Paul Connolly, Barbara Moreira, Karen Lea,

Ellen Angley, Penni Conner, Jerry Carey

Date of This Report:

December 3<sup>rd</sup>, 2003

**Next Meeting:** 

December 22<sup>nd</sup>, 2003 – SW3E

Compiled by:

Frank Gundal

1. Energy Supply is negotiating the MCEC contract with MTC. Marked up contract is currently in the hands of the MTC to review. It is expected that the MTC will now wait until DTE approval to sign contract.

Action: MTC/James Daley

2. A report for delinquent NSTAR Green customers and individual usage reports (if MCEC agreement is signed) will be needed. These are not critical to rollout and will be addressed as needed in 2004. Confirm that all reports necessary for Energy Supply and other groups will not be impacted.

Action: Frank Gundal

3. InFocus bill language is acceptable to the AG

Action: None

4. The School of Process and Technology has come up with a training aid, which will be distributed in January during normal meetings by line management. To be reviewed by Jack Habib and team prior to 1/1/04.

Action: Harry Ruscetta/Gerry Carey

# NSTAR Green Project Progress Meeting

## Page 2

5. Initial Roll out will be to NSTAR employees. This will be done through line management to both educate employees on NSTAR Green and to allow employees to sign up. Charlie Olsson to facilitate a communication plan.

Action: Charlie Olsson

6. Community Relations will assist by presenting to groups and associations. Account Management will be responsible for educating municipalities. Product has already been presented to AE's. Frank Gundal to present to Don Walsh's group on 12/17.

Action: Frank Gundal

7. NSTAR will list Green Energy Suppliers on our NSTAR Green website. Only Constellation offers a Green Energy product and they did not want to be placed on the website.

Action: None

- 8. Based on item 8, attempt to elicit either support or non intervention from -
  - 1. Constellation Will intervene
  - 2. CSG Neutral or possible support
  - 3. Mass Consumers Will Intervene
  - 4. Community Energy Will not file negative or NSTAR specific comments
  - 5. Sterling Planet Unknown
  - 6. Green Mountain Neutral
  - 7. Cape Light Compaq Will intervene
  - 8. DOER, CLF CLF is not expected to support, waiting for response from DOER

Action: None

9. In order to work with the non-profit agency Smartpower, NSTAR Green must be Green-E certified. It may qualify by the 150 kwh block qualification. The average usage for non-TOU customers is 649 kwH. Residential alone is 500 kwh. We will attempt to gain certification under the former otherwise we will increase Green percentage from 25% to 30%. Evaluate with Green-E

Action: Frank Gundal

10. There may be some implication by using an average load greater than 500 kwh. Jack Habib found this not to be an issue.

Action: None

11. The DTE deadlines are the following, Intervention 12/4, Procedural Conference 12/11, Comments 12/18. It was recommended that we continue to drum up support and look for benefactors of NSTAR Green. It is also recommended that everyone

# NSTAR Green Project Progress Meeting

### Page 3

understand the reasons for offering NSTAR Green in its current form as we speak to outside stakeholders. Attached is our customer presentation describing same. Some key points are –

- Designed around our customers through surveys, focus groups
- Gives customers a choice that they do not currently have
- Simple and easy (check-box type approach)
- Research shows, this is the most successful approach
- All new renewable resources
- Working on Green E certification
- Working on MCEC agreement (tax deduction)
- Green bid process was open to all suppliers
- We expect NSTAR Green to foster competition and further the green market as a whole

Action: Team

The meeting notes are intended to be an accurate refection of topics discussed. Please notify Frank Gundal if any exceptions are taken to these meeting notes.

# **NSTAR Green Meeting Minutes**

**Project:** 

**NSTAR** Green

Date of Meeting:

December 22<sup>nd</sup>, 2003

Participants:

Frank Gundal, Charlie Olsson, Jack Habib, Stu Weiner,

Peter Barsamian, James Daley, Harry Ruscetta, Paul

Connolly, Jerry Carey, Penni Conner

Distribution:

Participants, John, Milton, Steve Chiara, Gary

Cunningham, Mark Reed, Mike Durand, Mary Lou Segreve, Jessica Brahaney, Bob Werlin, Dena Lehman,

Ellen Angley

**Date of This Report:** 

December 22<sup>nd</sup>, 2003

**Next Meeting:** 

January 13<sup>th</sup>, 2004 – SW3E

Compiled by:

Frank Gundal

1. Energy Supply is negotiating the MCEC contract with MTC. The MTC supplied an Appendix to the contract, which includes items unworkable to NSTAR. The MTC is reviewing this issue.

Action: MTC/James Daley

2. A report for delinquent NSTAR Green customers and individual usage reports (if MCEC agreement is signed) will be needed. These are not critical to rollout and will be addressed as needed in 2004. All reports necessary for Energy Supply and other groups will not be impacted.

Action: Frank Gundal

3. The School of Process and Technology has come up with a training aid, which will be distributed in January during normal meetings by line management. The final signup process to be set up by Harry and Jerry. To be reviewed by Jack Habib and team.

Action: Harry Ruscetta/Gerry Carey

4. Initial Roll out will be to NSTAR employees. This will be done through line management to both educate employees on NSTAR Green and to allow employees to sign up.

Action: Charlie Olsson/Paul Connolly

5. Community Relations will assist by presenting to groups and associations. Account Management will be responsible for educating municipalities. Product has already been presented to AE's. Frank Gundal to present to Don Walsh's group at next staff meeting.

Action: Frank Gundal

6. Testing has been completed for the billing changes. Stu to coordinate with NIS for an implementation schedule. Stu to also investigate G-2 type customer exclusion. Investigation to include issues and expected time requirement.

Action: Stu Weiner

7. In order to work with the non-profit agency Smartpower, NSTAR Green must be Green-E certified. We will submit an application under the 150 kwh block criteria. Experience with the program will indicate whether there are enough REC's to meet the minimum. If there are not enough (ie average use is less than 600 kwh) we will increase REC purchase and evaluate whether these additional REC's should be less expensive low-impact hydro or similar.

Action: Frank Gundal

8. The DTE hearings have brought up several negotiating issues –

Sunset clause – When 20% of the residential customers have signed up for an ASP, NSTAR Green will be terminated

**NSTAR Green** – The name will remain

Marketing – Similar to ASP, we will include a reference to the NSTAR website which will include a list of Green Electricity Suppliers (this will not include REC only retailers)

C/I Customers – We will remove G-2 type customers from eligibility

Action: None

9. NSTAR will respond to comments submitted to the DTE. Jack Habib to coordinate responses.

Action: Jack Habib, Ellen Angley, Penni Conner, James Daly, Frank Gundal

The meeting notes are intended to be an accurate refection of topics discussed. Please notify Frank Gundal if any exceptions are taken to these meeting notes.

# **New Items 11/4/03**

- NIS Project
- User Acceptance Testing Lead Stu Weiner
- Call Center Training Harry Ruscetta/Jerry Carey
- SAS Reports John Milton
- Standard Offer issue Gary Cunningham
- Marketing w/SmartPower Frank Gundal
- Wrap-up, set next meeting date Frank Gundal

Project:	<b>Green Power</b>	Offering Charter
-		

**Objective:** Evaluate & recommend a process to offer Green Power alternative to NSTAR

Electric customers

Background: In order to support the NSTAR mission of "serving our customers well" the

Customer Care Council will sponsor the effort of investigating and designing the

concept of a Green Power offering.

## **Deliverables:**

- 1. Evaluate current options being offered by other entities
- 2. Identify compatibility and impact to existing NSTAR systems and operations
- 3. Identify costs to implement and market product offering
- 4. Market penetration study
- 5. Review status Go/No Go
- 6. Develop marketing plan
- 7. Training and implementation

Project Sponsors: Joint Council

**Project Team:** Pete Barsamian – Team Leader

Frank Gundal

Jim Razzaboni

Milestones: Project kick-off 03/04/03 Recommend product-offering 06/01/03

Develop marketing plan 08/30/03 Product Roll-out 10/01/03

## **Response Requirements:**

Small teams of 4-6 folks who will meet weekly. Total time requirements 4

hours per week per team member.

#### Schedule:

Activity	Date	Current Status
Project kick-off	03/04/03	
Review roles & responses		
Complete final recommendations		

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Project Owner Approval_	
	(Penni Conner)

Project Owner Approval	
	(Bill Carr)



# **Proposed NSTAR Green Power Offering**

#### Overview

NSTAR is desirous to propose a new Green Power option for both Default Service and Standard Offer Service customers. This product was developed using research from customer surveys, focus groups, and industry experts including vendors and the Massachusetts Technology Collaborative as well as evaluating other successful and unsuccessful utility offerings.

This year NSTAR conducted a survey through the Call Center to evaluate residential customers' perceptions of Green Power as well as their reception to this premium cost option. 73% of the customers surveyed indicated they would like the option of purchasing Green Power. The majority also indicated a reluctance to purchase this power from an alternative service provider. It should also be noted that at this time there are few if any alternative service providers for residential customers.

## **Product Description**

NSTAR's proposed Green Power tariff will initially consist of 25% of the customer's total kwh usage being derived from a renewable power source, a minimum of 5% of which will be from solar and/or wind. (50% and/or 100% options could be added in the future) as defined by the Massachusetts Technology Collaborative (MTC).

This product will be available to all residential and small C&I customers that receive generation services from NSTAR (i.e. Standard Offer Service or Default Service). Customers who are signing up or dropping the Green Power option will be required to inform NSTAR at least 3 days prior to their next meter read (similar to the EBT requirement for competitive suppliers). Standard Offer customers who elect to obtain generation services from the "standard offer green option" and elect to drop the Green Power premium will be allowed to revert back to Standard Offer Service.

#### **Product Goals**

NSTAR would like to begin offering this service on 1/1/04 with a 2-year marketing window to reach saturation. Research has shown that even though two-thirds of customers show interest 1% market penetration is average with 4-6% penetration where Green Power is less costly. Marketing efforts will include passive efforts such as bill stuffers, NSTAR's website and if budget permits, radio and newspaper. Active marketing efforts will include utilizing NSTAR's Call Center, the newly formed Tech Center, Town Meetings, Open House Forums and other synergistic efforts.

NSTAR will evaluate product success by market penetration as well as customer surveys. This information will be used to enhance marketing efforts and to evaluate additional Green Power products, which NSTAR may be able to offer after 3/1/05 once Standard Offer rates have been physically retired.



#### RENEWABLE ENERGY TRUST **GREEN BUILDINGS PROGRAM**

#### FUNDED PROJECTS ANTICIPATING ELECTRIC DISTRIBUTION SERVICE FROM NSTAR

# Green Buildings Initiative NSTAR Projects (With NSTAR Updates)

#### **Design and Construction**

**Artists for Humanity** 

Organization:

**Artists for Humanity** 

Location:

Boston

Funding:

\$500,000

Project:

Office, new construction, 23,000 sf

Renewables:

45 kW Photovoltaics

Schedule:

Begin October 2002, End September 2003

**Cambridge City Hall** 

Organization:

City of Cambridge

Location:

Cambridge \$337,500

Funding:

Institutional, renovation, 35,750 sf

Project: Renewables:

28 kW Photovoltaics

Schedule:

Begin August 2002, End November 2003

**Genzyme Corporation** 

Organization:

Genzyme Corporation

Location: Funding:

Cambridge

\$321,750

Project:

Commercial, new construction, 285,000 sf

Renewables:

2,800 sf roof-mounted Photovoltaics

Schedule:

Construction underway, End October 30, 2003

Woods Hole Research Center (Cape Cod Light Compact)

Organization:

Woods Hole Research Center

Location:

Falmouth

Funding:

\$226,308

Project:

Institutional/office, renovation/new construction, 19,300 sf

Renewables:

26.4 kW Photovoltaics

Schedule:

Construction underway, Expected end Fall 2002

MATCH School (DMI has prepared energy applications for this year)

Organization:

MATCH School Foundation

Location:

Allston

Funding:

\$475,500

Project:

Charter school, renovation, 21,000 sf

Renewables:

20 kW Photovoltaics

Schedule:

Construction underway, End November 30, 2002

**Maverick Gardens** 

Organization:

Trinity East Boston Limited Partnership/Boston Housing Authority

Location:

**East Boston** 

Funding:

Feasibility Study: \$20,000; Design and Construction: \$477,675

Project:

Multi-family housing, new construction, 400,000 sf

Renewables:

40.8 kW Photovoltaics, 75 kW Microturbine

Schedule:

Begin June 2003, End July 2006

Wellfleet Bay Wildlife Sanctuary (Cape Cod Light Compact)

Organization:

Massachusetts Audubon Society

Location:

Wellfleet

Funding:

Feasibility Study: \$20,000; Design and Construction: \$221,625 Institutional/office, new construction/renovation, 14,810 sf

Project: Renewables:

18 kW Photovoltaics

Schedule:

Begin September 2004, End May 2005

#### Feasibility Study

**Allston-Brighton CDC** 

Organization:

Allston-Brighton CDC

Location:

Allston

Funding:

\$20,000

Project:

Multi-family residential, new construction, 70,747 sf Fuel cells, photovoltaics and cogeneration under study

Renewables: Schedule:

Begin March 2003, End February 2004

**Columbus Center Associates** 

Organization:

Columbus Center Associates/Cassin Winn Development

Location: Funding:

Boston \$17,137.87

Project:

Multi-family residential/commercial, new construction, 132,000 sf

Renewables:

Fuel cells and photovoltaics under study

Schedule:

To be determined

**Morville House** 

Organization:

Episcopal City Mission/Fenway CDC

Location: Funding:

Boston \$20,000

Project:

Multi-family residential, new construction/renovation, 181,300 sf

Renewables:

Photovoltaics under study

Schedule:

Begin May 2003, End June 2004

Hammes Company (Cape Cod Light Compact)

Organization:

Hammes Company

Location:

Falmouth \$20,000

Funding: Project:

Office, new construction/renovation, 63,000 sf

Renewables:

Fuel cells, photovoltaics, wind, and biomass under study

Schedule:

Begin April 2003, End April 2004

**Train Memorial Health Center** 

Organization:

Town of Brookline

Location:

Brookline

Funding:

\$20,000

Project:

Institutional, renovation, 16,000 sf

Renewables:

Fuel cells, photovoltaics, and wind under study

Schedule:

Begin 2005

**Cape Cod Community College (Cape Cod Light Compact)** 

Organization:

Cape Cod Community College

Location:

West Barnstable

Funding:

\$20,000

Project:

Institutional, new construction, 24,000 sf

Renewables:

Fuel cells, photovoltaics, and microturbines under study

Schedule:

To be determined

National Marine Life Center (Cape Cod Light Compact)

Organization:

National Marine Life Center

Location:

Buzzards Bay (Bourne)

Funding:

\$20,000

Project:

Commercial, renovation, 19,928 sf Photovoltaics and wind under study

Renewables: Schedule:

To be determined

YWCA, Boston

Organization:

YWCA, Boston

Location:

Boston \$20,000

Funding: Project:

Multi-family residential/institutional, renovation, 185,000 sf

Renewables:

Fuel cells, photovoltaics, wind, and storage and conversion technologies

under study

Schedule:

Begin July 2003, End December 2005

## **Green Schools Initiative NSTAR Projects**

#### **Design and Construction**

# Edgerly Early Childhood Development Center (application approved commissioning proposal is being developed for NSTAR approval)

Location: Somerville, MA

Funding: \$630,000

Project: 400 students; New construction; 80,200 s.f.

Renewables: 25.2 kW PV with up to 7.2 kW in additional strings; 400 W wind turbine.

Schedule: Begin February 2002; End May 2003

## Falmouth High School (Cape Cod Light Compact)

Location: Falmouth, MA Funding: \$130,000

Project: 1400 students; Renovation/Addition; Total 297,398 s.f.

Renewables: Fuel cells, solar under study

Schedule: To be determined

# Newton South High School (Application being developed by Zapotec awaiting submittal of application)

Location: Newton, MA Funding: \$130,000

Project: 2000 students; Renovation/Addition; To total 388,000 s.f. Renewables: 60 kW solar PV; fuel cell and wind turbine under study

Schedule: Currently under construction

# South Street Elementary School (Some applications received awaiting documentation for application approval)

Location: Waltham, MA Funding: \$598,900

Project: New building: 90,000 s.f.

Renewables: 9.9 kW PV; 1 kW wind turbine for demo; Studying feasibility of 10 kW wind turbine.

Schedule: Begin Fall 2002

## Feasibility Study

#### **Ambrose Elementary School**

Location: Winchester, MA

Funding: \$20,000

Project: 420 Students; New building: 67.357 s.f.

Renewables: Solar PV under study

Schedule: Begin Sept. 2004

#### **Ashland High School**

Location: Ashland, MA Funding: \$20,000

Project: 900 Students; New building; 197,000 s.f.

Renewables: Renewable Energy Technologies under study

Schedule: Begin Fall 2003; End Summer 2005

**Canton High School** 

Location: Canton, MA (Working w/ Superintendent and Engineer for design optimization)

Funding: \$20,000

Project: 800 Students; Addition/renovation; to total 106,000 s.f. Renewables: PV and other Renewable Energy Technologies under study

Schedule: Begin May 2003; End Fall 2005

**Carlisle School** 

Location: Carlisle, MA Funding: \$20,000

Project: 850 to 1200 students; Addition/Renovation.

Renewables: Renewable Energy Technologies under study

Schedule: Begin June 2003

**Collicot Elementary School** 

Location: Milton, MA (Received applications awaiting documentation)

Funding: \$20,000

Project: 520 Students; New building; 90,000 s.f. Renewables: 36 kW solar PV; 5 kW fuel cells Schedule: Begin July 2003; End January 2005

**Dedham Middle School (unnamed)** 

Location: Dedham, MA Funding: \$20,000

Project: 700 Students; New building;

Renewables: Wind, Fuel cells, PV, Landfill gas microturbine and Cogeneration under study

Schedule: Begin Fall 2003; End Fall 2005

**Douglas High School** 

Location: East Douglas, MA

Funding: \$20,000

Project: 700 Students; New building; 128,800 s.f.

Renewables: Wind and PV under study

Schedule: Began May 2002; End September 2003

Eastham Elementary School (Cape Cod Light Compact)

Location: Eastham, MA Funding: \$20,000

Project: 265 Students; Renovation;

Renewables: Cogeneration, PV, geothermal and fuel cells under study

Schedule: Begin July 2003

Freeman Centennial School (Working With Fitzmeyer & Tocci Engineers)

Location: Norfolk, MA Funding: \$20,000

Project: 800 Students; New/Addition/Renovation under study

Renewables: Renewable Energy Technologies under study. Geothermal mentioned.

Schedule: Begin Summer 2003

Jeremiah E. Burke High School (Meeting with School department this week)

Location: Boston, MA Funding: \$20,000

Project: 812 Students; Renovation and Addition; 150,820 s.f. and 42,000 s.f. addition

Renewables: Solar PV, fuel cells under study

Schedule: Begin spring 2004; End September 2006

#### **Lincoln Park Community School**

Location: Somerville, MA

Funding: \$20,000

Project: 600 Students; New building; 104,000 s.f. Renewables: Solar PV, biomass, fuel cells under study

Schedule: To be determined

#### **Natick High School**

Location: Natick, MA

(Working with Engineers)

Funding: \$20,000

Project: 1350 students; New/Renovation/Addition under study; 20,000 to 250,000 s.f. to be

determined

Renewables: Wind, PV under study Schedule: SBA Approval June 2003

## Newton North High School (Application being developed by Zapotec)

Location: Newton, MA Funding: \$20,000

Project: 2000 students; Renovation; 474,000 to 476,000 s.f. Renewables: fuel cells, microturbines, PV under study

Schedule: Begin 2004

## Pembroke High School (Working With TCI Engineering)

Location: Pembroke, MA

Funding: \$20,000

Project: Renovation/Addition; 45,000 s.f. addition to total 167,760 s.f.

Renewables: Landfill gas, fuel cells, PV under study

Schedule:

#### **Wayland High School**

Location: Wayland, MA Funding: \$20,000

Project: 849 Students; New/renovation/addition under study Renewables: Renewable Energy Technologies under study

Schedule: To be determined

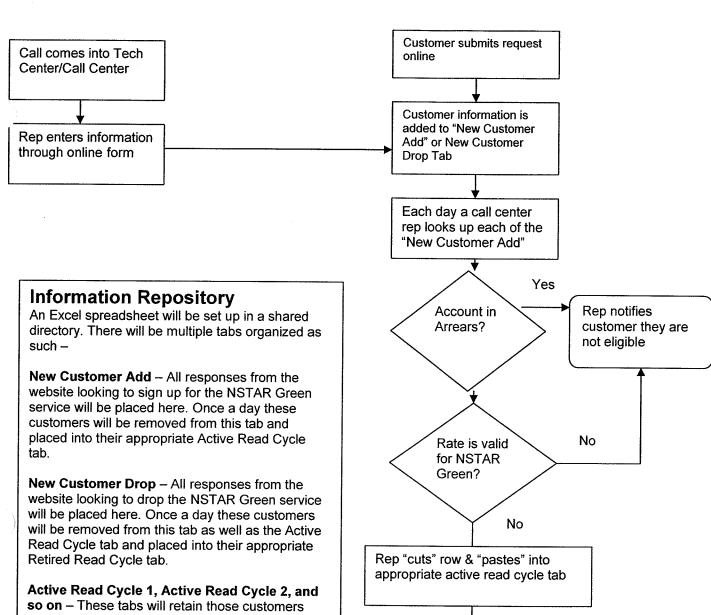
#### **Woburn High School**

Location: Woburn, MA Funding: \$20,000

Project: 1450 Students; New building; s.f. to be determined

Renewables: fuel cells under study

Schedule: Begin 2004



Active Read Cycle 1, Active Read Cycle 2, and so on – These tabs will retain those customers currently on or signed up for NSTAR Green. A completed column will indicate the exact date their rate was changed.

Retired Read Cycle 1, Retired Read Cycle 2, and so on — These tabs will retain former subscribers of NSTAR Green. A completed date will indicate an exact date their rate was changed.

Rep looks up customer in Active
Read Cycle tab "cuts" the row &
"pastes" under the appropriate
retired read cycle tab.

Each day Call Center Rep
looks up that day's Active &
Retired read cycle & looks for
new customers.

Each day Call Center Rep looks up

each of the "New Customer Drop"

Rep changes rate in CIS and enters the date under "complete" column.

		Greer	Green Product Development Matrix	lopment Matri	<b>X</b> *		
		Marketing Communication	Marketing			Endorsomen+	
	Method of	(Residential/Small	Communication			(Residential &	Endorsement
Billing	Purchase	C/I)	(Large C/I)	<b>Definition of Green</b>	Tax Benefit	Small C/I)	(Large C/I)
		Bill shows details	Bill shows details				
		including total kWh	including total kWh				
		green, conversion to	green, conversion to				
		emmissions, trees	emmissions, trees				Industry
Must be able to		etc along with option	etc along with option Ability to choose a	Ability to choose a			specific group
return to		to change	to change	specific, local green Fo	For residential		(ie AIM. HEFA.
Standard Offer	Block	contribution	contribution	generating facility	stomer	Sierra Group	BOMA etc)
Separate line						ı	
item on bill for		Affinity groups (ie					
premium green		Starbucks, Kinko's		Ability to specify			
power	Percentage	etc)	Account Executive	exact type/mix		Green E	Sierra Group
New combined				Mass Definition of			-
green generation				Renewable			
rate	Entire usage	Radio/TV ads	Direct Mail	resource		Amory Lovins	Green E
Monthly fixed				An environmental			
deduction from		Tech Center & Call		group such as			
bank account	Green Tags	Center	email	Green E			Amory Lovins
Monthly fixed							
deduction from							
credit card		Bill Insert	Bill Insert	Green Tag			

\*Note - Items are listed in preferance from high to low, top to bottom

# First Year Marketing Plan

#### Overview

Marketing costs will be a direct pass through to NSTAR Green customers through the NSTAR Green rate. As such, until enrollment occurs, funds will not be available. Therefore the rollout of the product will be marketed with existing internal resources defined in this document.

# **Corporate Communications**

- Press Conference
- Bill Inserts
- Presentations to select groups (Rotary Club, Sierra Club, Audubon Society etc)
- Website

#### **Customer Care**

- Call Center/Tech Center New service or upgrade requests can have a follow up offer for NSTAR Green
- Direct Mail Pull together target lists from Energy Star or Energy Efficiency such as participants in energy audits, recipients of rebates for energy efficient appliances
- Partnerships with national chains (Kinko's, Starbucks etc)
  - o Promotional signup days in front of the establishment
  - o Free coffee/free mug with sign up etc
- Offer NSTAR branded trinket with signup
  - o Bucket truck
  - o Solar calculator
  - Solar watch
- Booth at Home Show or other related show

## Other Possibilities

- Bill Info Show information on how much Green Energy is being utilized on the bottom of the bill. For those not on NSTAR Green this shows zero and indicates the 1-800-number to sign up
- Co-promotion with other NSTAR advertising
- Tickets to Boston Breakers or other corporate sponsorship

Attendees

Penni Conner
Peter Barsamian
Frank Gundal
Jim Razzaboni
Margaret Norton
Dana Lehman
Jason Gifford
NSTAR
NSTAR
NSTAR
NSTAR

Liz Hicks

Kema/Xenergy

# **Green Glossary**

**NSTAR Green-** An optional electricity product, which consists of at least 25% new renewable green power.

**Green Power** – Although there are different definitions of green power, NSTAR defines it as electricity generated from solar, wind, biomass, hydro or other similar renewable resources.

New Renewable – Renewable electricity generating plants which were built after 1998. This term and definition was created in the restructuring act (electricity deregulation).

**Photovoltaic or PV** – These are solar cells which generate electricity directly from sunlight.

Wind Power - Electricity generated by the wind usually through wind turbines

Tidal Power - Electricity generated using the power of tidal currents

Hydro Power - Electricity generated using water usually through the use of dams.

**Biomass** – Electricity generated by burning existing waste. This could include wood, paper, digester gas (sewerage), landfill gas (from trash dumps) etc.

Geothermal – Electricity generated using heat from the earth such as hot springs.

**Massachusetts Technology Collaborative or MTC** – A quasi-public agency responsible for development of renewable energy in Massachusetts.

**GreenUp** – A National Grid program which customers can purchase green energy from competitive suppliers

Renewable Energy Certificates or REC's – Certificates showing that renewable energy was produced. They do not represent the actual energy but instead the intangible qualities of green power. These were developed to facilitate the market for green power.

Green Tags – See Renewable Energy Certificates

Brown Power – Electricity generated from non-green generating plants

**Dark Green** – Does not have a literal definition. Is used to mean those green resources which have the least negative environmental impact

# **NSTAR Green FAQ's**

#### What is NSTAR Green?

NSTAR Green is an optional premium for electricity produced from at least 25% new renewable green resources.

# Who is eligible for NSTAR Green?

Residential and Small Commercial customers currently on NSTAR's default service or standard offer generation rates.

## How do I sign up for NSTAR Green?

Residential customers call 1-800-592-2000, small c/I call 1-800-340-9822

# How long must I sign up for?

You may cancel service and return back to standard office or default service by notifying NSTAR at least 3 days prior to the next meter read.

# Will the quality of my service change?

No. There is no difference in the quality of service or the quality of electricity.

# How do I know I am receiving Green Power?

In your bill, you will receive a special Energy Label every quarter. This label will show the type of generation you are paying for and the percentage.

# How does the Green Power get delivered to my home?

A grid interconnects the utility system. Various generating plants, including Green Power, feed into this grid and the power is delivered to your home. The actual electrons from a Green Power plant cannot be directed to your home, but instead are dispersed throughout the system. By purchasing NSTAR Green you are reducing the amount of non-green power being generated and therefore helping the environment.

# How much does NSTAR make from NSTAR Green?

NSTAR does not mark up this service; the cost is a direct pass through to the customer.

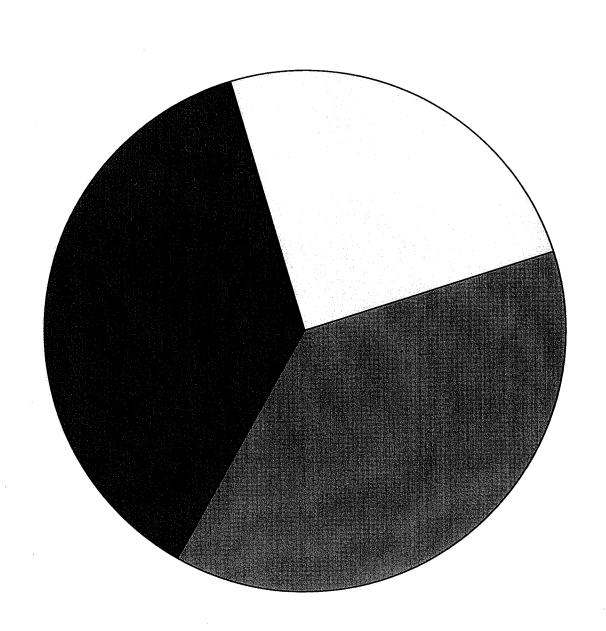
## Why is NSTAR offering this service?

Surveys and focus groups indicated customers want this option, however there are no suppliers offering it to residential or small commercial customers.

■Very Interested

Slightly Interested

□ Not at all Interested



	\$/MW	
Calendar 04 Market Price (Natsource)	•	50
Green Power Premium Estimate (Select)	4	17
Total price for 100% Green Energy	ę	97
Price for 50% Green Energy	73	.5
Price for 25% Green Energy	61.7	75
Effect on average (500kWh) Customer		
100% 50% 25%	\$ 23.50 \$ 11.79 \$ 5.80	5

Dark Green

# **Possible Issues & Mitigations**

Problem	Resolution
Call Center is overloaded with calls	Utilize 21 <sup>st</sup> Century
	<u> </u>
RFP does not produce enough REC's	Put customers on waiting list
Supplier defaults on REC's	Energy Supply will take legal action
	and procure internally
D.C.	
REC's come from a source with	
negative public connotations	
Ducament in the latest	A : :1 1:0
Program is under subscribed	Any issues with supplier?
Costs	
Delivery costs become excessive	
DTE does not approve recovery of	
costs	
IRS throws out tax credit	Any references to the tax credit
	should have a caveat to consult a tax
	attorney
	·

# **Miscellaneous**

**GREEN DEFINITION:** 

No Hydro – is Mass Renewable

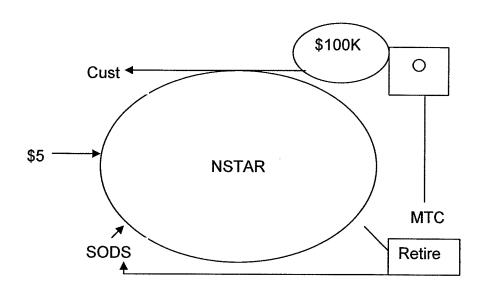
NSTAR - Mass Renewables - MTC

# **OTHER OPTIONS**

# UTILIZE

- 1. New or Existing DG Facilities, Fuel Cells, Solar
- 2. S. Offer line item = Green Power Supplier} Dummy

W/Green Tag Broker  Low risk tax deduct Informational Do Now  No NSTAR Branding Non sustainable value Little value to customer	Option	Benefits	Concerns	Action Items
Cust to go to supplier which is green  B. NSTAR w/o Broker  NSTAR Branding Products  Added risk. Are we in the energy business. Green tags difficult to understand. Regulatory concerns  MTC  Retire Certificates  Redo back on default  Added risk. Are we in the energy business. Green tags difficult to understand. Regulatory concerns	W/Green Tag Broker	Low risk tax deduct Informational	Tags difficult to market.  No NSTAR Branding  Non sustainable value  Little value to	Code of Conduct Alternate Supplier
B. NSTAR w/o Broker  Products  Added risk. Are we in the energy business. Green tags difficult to understand. Regulatory concerns  MTC  Retire Certificates  Added risk. Are we in the energy business. Green tags difficult to understand. Regulatory concerns	A1. (N/A Mohawk)	cust to go to supplier		1 •
	Broker	NSTAR Branding Products	in the energy business. Green tags difficult to understand.	
	MTC	Retire Certificates		



Option C	Benefits	Concerns	Action
Use S.O/DS	S.O. Green Sr.	S.O. 15% Rate Cap	Bill
			Sign Up
	Market Base	Bill Format Separate Live item	Buy Certificates
		for Green	
		Bill Calculation	MTC
			True Up
"Blocks"		Higher Bill or pay as	
		you go	
		No Certificate	
		Available	
		2 <sup>nd</sup> Guess price of ←	Analyze
		certificates	
		Drive up \$ of SO/DS	

Option D	Benefits	Concerns	Action
Project		E. Supply	
Custom		Not in Business	
Donate			
		Regulatory Impacts	
		Regulated	
		Constraints	

Option E	Benefits	Concerns	Action
MTC Project	Visibility Education	Where, what happens to power	Flush MTC mechanics
		How do all customers access	

# **Green Power Option**

#### **Product Description**

By choosing this product, customers will be able to increase the amount of Green Power used to generate the electricity, which they use. In doing so they will help the local environment by reducing emissions and reducing our dependence on natural resources. The additional cost to choose green power is tax deductible (state).

Customers may begin or end purchasing Green Power by specifying an option on their electric bill. The Green purchase will begin or end on the following billing cycle.

Choosing Green Power in no way changes the reliability or quality of service.

#### **Product Pricing**

25% 50%

100%

Dark Green 25% 50% 100%

#### **Product Marketing**

Customers may receive information about this product from the following sources -

- Bill Insert
- Radio
- TV
- Co-operative partnerships with local retail establishments
- Co-Operative partnerships with local towns and communities

## **Green Definition**

There are various definitions of Green Power. NSTAR's Green Power program will be supplied by those sources approved by the Massachusetts Technology Collaborative, a quasi-public agency established as the state's development agency for renewable energy.

#### **Dark Green Definition**

The concept is that there are fundamental differences within renewable energy sources, where the better, or "greener" sources have little or no effect on the environment, while the other "light green" sources although "renewable" by definition, might still have emissions or other residual effects on the environment.

Below is a sample list (by one person's definition) of what sources fall into each category:

Light Green:

Sewer Gas, High Hydro, Trash Burning, Landfill Gas, Biomass

Dark Green:

Solar, Wind, Geothermal, Low Impact Hydro, Tidal

# MTC Glossary of Renewable Energy Sources

# Wind Energy

Wind Energy comes from moving air which is converted to electric power to create electricity. Due to unequal solar heating of the earth, wind is generated. As air flows past the rotors of a wind turbine, the rotor spins and drives the shaft of an electric generator. Wind turbines with small rotors are often used for battery charging while larger rotors are used to generate large amounts of electricity that can be used locally or fed into the regional grid.

#### **Biomass**

Biomass energy available from organic materials in the environment, that originated as solar energy that is absorbed by plants and is converted into chemical energy by photosynthesis. It includes energy available in wood, crops, crop residues, industrial and municipal organic waste, food processing waste and animal wastes. These wastes of various human and natural activities can be burned to create heat and/or steam that is used to generate electricity.

### Solar photovoltaic

Solar Electric or Photovoltaic Systems convert some of the energy in sunlight directly into electricity. Photovoltaic (PV) cells are made primarily of silicon, the second most abundant element in the earth's crust, and the same semiconductor material used for computers. When the silicon is combined with one or more other materials, it exhibits unique electrical properties in the presence of sunlight. Electrons are excited by the light and move through the silicon. This is known as the photovoltaic effect and results in direct current (DC) electricity.

#### Landfill gas

Landfill gas is created when waste in a landfill decomposes under anaerobic – or oxygen free – conditions. Because landfill gas is about 50 percent methane, it can be used as a source of energy similar to natural gas (which is about 90% methane). Since landfill gas is generated continuously, it provides a reliable fuel for a range of energy applications, including heating and electric power generation.

#### **Hydropower**

Hydroelectric (or Hydropower) plants capture the kinetic energy of falling water to generate electricity. A turbine and a generator convert the energy from the water to mechanical and then electrical energy. The turbines and generators are installed either in or adjacent to dams, or use pipelines (penstocks) to carry the pressured water below the dam or diversion structure to the powerhouse. Hydropower projects are generally operated in a run-of-river, peaking, or storage mode.

#### **Tidal Energy**

Tidal energy is from the ebb and flow of the tide. Typically located on the coast, as the tide rises, water is allowed to flow through gates in a dam to fill a basin behind it. At high tide the gates are closed and as the tide falls the water in the basin is retained behind the dam. Once sufficient water has built up, the water behind the dam is released and the potential energy it possesses is converted into kinetic energy which is captured by a turbine to drive generators to produce electricity.

#### Wave Energy

Ocean waves are a derived form of solar energy, with the unequal solar heating of the earth generating wind, and wind blowing over water generating waves. There are a variety of wave energy systems under development, ranging from small-scale shoreline to large scale off-shore systems. The wave energy systems at the shoreline typically are oscillating water column devices while off-shore the devices are floating and held in place by different types of moorings.

# Green Power Target Dates for Discussion

	Completion Date	Department	Lead
Product Development		•	
Phone Survey	Complete	Account Management	
CSG Audit Survey	Complete	Account Management	
Focus Groups	Complete	Account Management	
Product Design	Complete	Account Management	
Billing Changes			
Determine Requirements and Options	10/15/2003	Billing	George Thompson
Evaluate Options	11/1/2003	Billing	George Thompson
Implement Changes	12/31/2003	Billing	George Thompson
Testing	1/15/2003	Billing	George Thompson
Regulatory Issues			
Draft Filing	Complete	Energy Supply	James Daley
Comments on Draft	9/26/2003	Entire Team	camee Baley
Finalize Filing	10/7/2003	Energy Supply	James Daley
DTE Submitall	10/15/2003	Energy Supply	James Daley
DTE Approval	11/15/2003	Energy Supply	James Daley
Endorsements (MassPIRG, CLF, etc.)	1/30/2004	Governmental Affairs	Mark Reed
Marketing			
Establish Marketing Budget	10/7/2003	Corporate Communications	Paul Connelly
Develop Plan and Materials	10/15/2003	Corporate Communications	
Develop Process for Signup/Drop	10/15/2003	Account Management	Jim Razzaboni
Develop and Coordinate Bill Inserts	12/1/2003	•	
Begin Bill Insert Distribution	1/1/2004	Corporate Communications	
Training			
Call/Tech Center	2/9/2004	Account Management	Jim Razzaboni
Communicate to Public			
Press Release	10/7/2003	Corporate Communications	Paul Connelly
Press Conference for Product Kick-off	1/19/2004	Corporate Communications	
Implementation		,	
Procure Power	12/31/2003	Energy Supply	James Daley
Insure power meets MCEC and other regs	12/31/2003	Energy Supply	James Daley
Product Release	2/15/2004	Entire Team	

